

IN THE CLAIMS

Please amend the claims as follows. The following listing of claims replaces all prior versions.

1-19. (Canceled).

20. (Currently amended) A method for assessing the amount of a nucleic acid analyte in a sample ~~Use in a diagnostic hybridization assay of a probe for lowering the effect of sequence variations in a nucleic acid analyte, which assay comprises the steps of comprising:~~

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of ~~[[the]]~~a probe, characterized in that the probe comprises:

one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides or LNA nucleotides, that have an affinity increasing modification ~~and the diagnostic assay is for assessing the amount of analyte present in the sample;~~ and

one or more unmodified nucleotides;

thereby assessing the amount of nucleic acid analyte in the sample.

21. (Currently amended) A method for assessing the presence of a nucleic acid analyte in a sample ~~Use in a diagnostic hybridization assay of a probe for lowering the effect of sequence variations in a nucleic acid analyte, which assay comprises the steps of comprising:~~

contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of ~~[[the]]~~a probe, characterized in that the probe comprises:

one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides or LNA nucleotides, that have an affinity increasing modification, ~~[[i.e.]]~~wherein at a constant temperature of hybridization, the melting temperature of the probe with any possible

analyte's polymorphism is increased compared to the melting temperature of an unmodified probe with any analyte's polymorphism ~~and the diagnostic assay is for assessing the presence of the analyte in the sample; and~~

one or more unmodified nucleotides;
thereby assessing the presence of nucleic acid analyte in the sample.

22. (Currently amended) The method of Use as claimed in claim 20, wherein the probe is a molecular beacon.

23. (Currently amended) The method of Use as claimed in claim 21, wherein the probe is a molecular beacon.

24. (Currently amended) A method for assessing the presence of a nucleic acid analyte in a sample using a molecular beacon probe that lowers Use in a diagnostic hybridization assay of a molecular beacon probe for lowering the possible opening of the stem of the molecular beacon beacons by way of that results from at least one contaminant present in the amplification enzyme mixture, which assay comprises the steps of, the method comprising contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte; and

detecting the amplified analyte or its complement by means of the probe, characterized in that the probe's stem comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity increasing modification, ~~optionally~~especially 2' -O-methyl nucleotides[[,]]; and
one or more unmodified nucleotides;

thereby assessing the presence of nucleic acid analyte in the sample.

25. (Currently amended) A method for assessing the presence of a nucleic acid analyte in a sample using Use in a diagnostic hybridization assay of a molecular beacon probe for lowering:

the effect of sequence variations in a nucleic acid analyte, and/or
the possible opening of the stem-loop structure of the molecular ~~beacon~~ ~~beacons by way~~
~~of that results from~~ at least one contaminant present in the amplification enzymes mixture, ~~the~~
~~method comprising which assay comprises the steps of~~
contacting a set of primers and a sample containing the nucleic acid analyte to amplify
the analyte; and
detecting the amplified analyte or its complement by means of the probe,
characterized in that the probe's loop comprises:
one or more nucleotides and/or nucleotide analogues that have an affinity
increasing modification, and
one or more unmodified nucleotides
and/or the probe's stem comprises:
one or more nucleotides and/or nucleotide analogues that have an affinity
increasing modification, ~~optionally~~ especially 2' -O-methyl nucleotides, and
one or more unmodified nucleotides;
thereby assessing the presence of nucleic acid analyte in the sample.

26. (Currently amended) The method of ~~Use as claimed in~~ claim 20 wherein the
diagnostic assay is a homogenous assay.

27. (Currently amended) The method of ~~Use as claimed in~~ claim 21 wherein the
diagnostic assay is a homogenous assay.

28. (Currently amended) The method of ~~Use as claimed in~~ claim 24 wherein the
diagnostic assay is a homogenous assay.

29. (Currently amended) The method of ~~Use as claimed in~~ claim 25 wherein the
diagnostic assay is a homogenous assay.

30. (Currently amended) The method of Use as claimed in claim 20 wherein the diagnostic assay is a heterogeneous assay.

31. (Currently amended) The method of Use as claimed in claim 21 wherein the diagnostic assay is a heterogeneous assay.

32. (Currently amended) The method of Use as claimed in claim 24 wherein the diagnostic assay is a heterogeneous assay.

33. (Currently amended) The method of Use as claimed in claim 25 wherein the diagnostic assay is a heterogeneous assay.

34. (Currently amended) The method of Use as claimed in claim 20, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

35. (Currently amended) The method of Use as claimed in claim 21, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

36. (Currently amended) The method of Use as claimed in claim 24, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

37. (Currently amended) The method of Use as claimed in claim 25, wherein the nucleotides or nucleotide analogues having an affinity increasing modification are selected from

the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids and peptide nucleic acids.

38. (Currently amended) The method of Use as claimed in claim 34, wherein the 2' -O-derivatized nucleotide is a 2' -O-methyl-nucleotide.

39. (Currently amended) A molecular ~~Molecular~~ beacon probe ~~for use in a diagnostic hybridization assay~~, said probe comprising one or more unmodified nucleotides and one or more nucleotides and/or nucleotide analogues, selected from 2' -O-methyl nucleotides, that have an affinity increasing modification, [[i.e.]]wherein at a constant temperature of hybridization, the melting temperature of the probe with any possible analyte's polymorphism a target sequence is increased compared to the melting temperature of an unmodified probe with the same target sequence.

40. (Currently amended) A molecular ~~Molecular~~ beacon probe ~~for use in a diagnostic hybridization assay~~, said probe allowing the lowering of the possible opening of the stem-loop structure of the molecular beacon ~~beacons by way of that results from~~ at least one contaminant present in the amplification enzyme mixture, ~~which assay comprises the steps of contacting a set of primers and a sample containing the nucleic acid analyte to amplify the analyte and~~

~~detecting the amplified analyte or its complement by means of the probe,~~
characterized in that the probe's stem comprises:

one or more nucleotides or nucleotide analogues having an affinity increasing modification are selected from the group consisting of a 2' -O-derivatized nucleotide, a locked nucleic acid, and a peptide nucleic acid 2'-methyl nucleotides, and
one or more unmodified nucleotides.

41. (Currently amended) A molecular ~~Molecular~~ beacon probe ~~for use in a diagnostic hybridization assay~~, said probe allowing the lowering of:

the effect of sequence variations in a nucleic acid analyte, and/or
the possible opening of the stem-loop structure of the molecular beacon ~~beacons~~
~~by way of enzymes~~, characterized in that the probe's loop comprises:

one or more nucleotides and/or nucleotide analogues that have an affinity
increasing modification, and

one or more unmodified nucleotides
and/or the probe's stem comprises:
one or more 2' -O-methyl nucleotides, and
one or more unmodified nucleotides.

42. (Canceled).

43. (Currently amended) The Probe ~~or~~ molecular beacon probe as claimed in claim
41, wherein the nucleotides or nucleotide analogues having an affinity increasing modification
are selected from the group consisting of 2' -O-derivatized nucleotides, locked nucleic acids, and
peptide nucleic acids.

44. (Currently amended) The Probe ~~or~~ molecular beacon probe as claimed in claim
42, wherein the 2' -O-derivatized nucleotide is a 2' -O-methyl-nucleotide.

45. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim
40, wherein each base pair constituting the stem contains no more than one 2' -O-methyl
nucleotide.

46. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim
41, wherein each base pair constituting the stem contains no more than one 2' -O-methyl
nucleotide.

47. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein at least one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

48. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein at least one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

49. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

50. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein one base pair constituting the stem contains no nucleotide or nucleotide analogue having an affinity increasing modification.

51. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 40, wherein each strand constituting the stem contains at least one nucleotide or nucleotide analogue having an affinity increasing modification.

52. (Currently amended) The molecular ~~Molecular~~ beacon probe as claimed in claim 41, wherein each strand constituting the stem contains at least one nucleotide or nucleotide analogue having an affinity increasing modification.

53. (Currently amended) ~~Kit~~ A kit for performing a diagnostic amplification assay, comprising the appropriate primers, polymerase(s) and reagents for performing amplification of an analyte to be diagnosed and a probe or a molecular probe as claimed in claim 39 for detecting the amplified analyte.

54. (Currently amended) ~~Kit A~~ kit for performing a diagnostic amplification assay, comprising the appropriate primers, polymerase(s) and reagents for performing amplification of an analyte to be diagnosed and a probe or a molecular probe as claimed in claim 40 for detecting the amplified analyte.

55. (Currently amended) ~~Kit A~~ kit for performing a diagnostic amplification assay, comprising the appropriate primers, polymerase(s) and reagents for performing amplification of an analyte to be diagnosed and a probe or a molecular probe as claimed in claim 41 for detecting the amplified analyte.